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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/651,382 08/29/00 SOUSSI

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EXAMINER

MOTOROLA INC

600 NORTH US HIGHWAY 45

LIBERTYVILLE IL 60048-5343

LEE, J

ART UNIT

PAPER NUMBER

2662

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07/05/01

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1<sup>st</sup>  
O.A.

Amend: 05 OC 2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/651,382	SOUSSI ET AL.
	Examiner John J. Lee	Art Unit 2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-33 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

- |   |  |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 20) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dennison (US Patent number 5815814) in view of Tiedemann, Jr. (US Patent number 5642398).**

Regarding claim 1, Dennison discloses that a method for determining location information for remote receivers in a communications network wherein signals are directed to the receivers from at least one of a plurality of distinctly identifiable base units in a service area, each of the base units servicing a cell area encompassing at least one zone in the service area which can be occupied by one of the receivers, the method comprising:

communicating between said one of the receivers and the base unit servicing the cell area encompassing a zone occupied by said receiver (column 1, lines 21 – column 2, lines 41 and Fig. 1, 2);

identifying the zone occupied by the receiver and determining at least one of a measure of spatial size, a shape and orientation, a boundary apex, and a boundary line of said zone (column 5, lines 51 – column 6, lines 54, Fig. 1, column 3, lines 55 – column 4, lines 61);

determining a location of the receiver within the zone and interpreting said location of the receiver using a resolution related to said size of the zone (column 7, lines 6 – 22 and Fig. 1).

Dennison does not specifically disclose the limitation "identifying the base unit by communicating with the receiver". However, Tiedemann, Jr. discloses "identifying the base unit by communicating with the receiver" (column 6, lines 61 – column 7, lines 18, Fig. 1, and column 11, lines 8 – 55). It would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to provide the teaching of Tiedemann, Jr. to Dennison, because they both relate to determine and track the location and status of the mobile station within mobile communication system. Propose the motivation to provide determining efficient positioning location of the mobile station in order to further improve tracking and determining location service for mobile station in mobile communication system.

Regarding **claim 2**, Dennison discloses that recording at least one dimension of the zone defining the spatial size of the zone, and wherein said determining of the spatial size comprises communicating said dimension to the receiver during communication between the receiver and the base unit (column 5, lines 51 – column 6, lines 54, Fig. 1, column 3, lines 55 – column 4, lines 61).

Regarding **claim 3**, Dennison discloses that recording a location of the base unit and wherein said determining of the location of the receiver comprises determining the recorded location of the base unit servicing the occupied zone in which the receiver is located (column 1, lines 57 – column 2, lines 40 and Fig. 1).

Regarding **claim 4**, Dennison discloses that the determining of the location of the receiver comprises accessing a positioning system comprising elements external to the communications network to determine an apparent location; determining the recorded location of an adjacent one of the base units defining the occupied zone; and determining a relationship between the apparent location and the recorded location with respect to at least one dimension of the occupied zone (column 1, lines 56 – column 2, lines 50 and column 5, lines 51 – column 6, lines 30).

Regarding **claim 5**, Dennison discloses that the determining a relative bearing between the base unit and the receiver and defining said zone as an angular sector corresponding to the bearing (column 6, lines 55 – column 7, lines 31).

Regarding **claim 6**, Dennison discloses that the recording of the at least one dimension of the zone comprises characterizing a size of a sector according to a size hierarchy and signaling the size of the sector from the base units (Fig. 1 and column 1, lines 21 – column 2, lines 20).

Regarding **claim 7**, Dennison discloses that encoding a size of the sector together with a sector identification code signaled by the base units (column 5, lines 51 – column 6, lines 54).

Regarding **claim 8**, Dennison discloses that the zone is equal to the cell area of the base station servicing the receiver (column 5, lines 40 – column 6, lines 54).

Regarding claim 9, Dennison and Tiedemann, Jr. disclose all the limitation, as discussed claim 1. Furthermore, Dennison further discloses that accessing a position determination system to determine point coordinates defining an apparent point location of one of the receivers according to a coordinate system (column 6, lines 37 – column 7, lines 22, column 1, lines 21 – column 2, lines 20, and column 2, lines 66 – column 3, lines 29);

However, Dennison does not further discloses the limitation "a distance tolerance between an actual point location of the receiver and the apparent point location and, a maximum distance from the apparent point location equal to the distance tolerance". However, Tiedemann, Jr. discloses "a distance tolerance between an actual point location of the receiver and the apparent point location and, a maximum distance from the apparent point location equal to the distance tolerance" (column 12, lines 10 – column 13, lines 30). It would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to provide the teaching of Tiedemann, Jr. to Dennison, because they both relate to determine and track the location and status of the mobile station within mobile communication system. Propose the motivation to provide determining efficient exact positioning location of the mobile station by calculation of distance in order to further improve determining mobile positioning system in mobile communication system.

Regarding claim 10, Dennison and Tiedemann, Jr. disclose all the limitation, as discussed claim 1. Furthermore, Dennison further discloses that

apparent point location of the receiver is at least partly determined by communicating with a base unit at a known location (column 1, lines 57 – column 2, lines 50 and column 5, lines 51 – column 6, lines 30).

Regarding claim 11, Dennison and Tiedemann, Jr. disclose all the limitation, as discussed claim 9.

Regarding claim 12, Dennison discloses that encoding a size of the cell in parameter information broadcast by the base unit servicing receivers in the cell (column 7, lines 6 – 31).

Regarding claim 13, Dennison discloses that defining a zone occupied by the receiver within the cell and wherein the precision is a function of a size of the occupied zone (column 6, lines 37 – column 7, lines 22, Fig. 1, and column 1, lines 21 – column 2, lines 27).

Regarding claim 14, Dennison discloses that the zone is defined as a logical subdivision distinguishing a subset of all receivers occupying the cell (Fig. 1 and column 1, lines 21 – column 2, lines 40).

Regarding claim 15, Dennison discloses that the zone is defined as a spatial subdivision of the cell (Fig. 1 and column 1, lines 21 – column 2, lines 40).

Regarding claim 16, Dennison discloses that the zone is defined as a spatial portion equal to at least one of the cells (Fig. 1 and column 1, lines 21 – column 2, lines 40).

Regarding claim 17, Dennison and Tiedemann, Jr. disclose all the limitation, as discussed claim 5.

Regarding **claim 18**, Dennison and Tiedemann, Jr. disclose all the limitation, as discussed claim 5.

Regarding **claim 19**, Dennison discloses that adaptively defining a movable zone by defining a bearing between the receiver and a plurality of transmitters in the communication network (column 3, lines 55 – column 4, lines 60).

Regarding **claim 20**, Dennison and Tiedemann, Jr. disclose all the limitation, as discussed claims 1 and 9.

Regarding **claim 21**, Dennison discloses that at least one of the cell areas is served by a plurality of transmitters each including at least one said base unit and at least one said location transmitter (column 1, lines 57 – column 2, lines 27).

Regarding **claim 22**, Dennison discloses that each of the base units transmits a coordinate location of the base unit and a size of the zone (column 6, lines 37 – column 7, lines 22).

Regarding **claim 23**, Dennison discloses that the zone is coextensive with the cell (column 1, lines 21 – 55).

Regarding **claim 24**, Dennison discloses that the coordinate location of the base unit and the size of the respective cell are defined in parameter information broadcast at least intermittently by the base unit (column 6, lines 37 – 67).

Regarding **claim 25**, Dennison discloses that each of the base units transmits a code identifying said base unit, and wherein the receiver is adapted to cross reference said code to at least one of a location of the base unit and a size of the cell (column 5, lines 51 – column 6, lines 24 and column 6, lines 55 – column 7, lines 22).

Regarding **claim 26**, Dennison discloses that the identifier defines said dimensions of the cell by indicating a size category of the cell (column 7, lines 1 – 32 and Fig.1).

Regarding **claim 27**, Dennison discloses that the size category is represented by a code appended to an identification code of the cell (column 6, lines 55 – column 7, lines 32).

Regarding **claim 28**, Dennison and Tiedemann, Jr. disclose all the limitation, as discussed claim 5.

Regarding **claim 29**, Dennison discloses that the zone determined for at least one particular mobile receiver is defined at least partly by said particular receiver determining an overlap between a location of said particular receiver and a zone referenced to a source selected from among said base units and at least one other said mobile receiver, thereby at least partly defining a zone of said particular receiver (column 1, lines 21 – column 2, lines 65).

Regarding **claim 30**, Dennison discloses that the particular receiver is operable to determine at least one of a known location of the source, a known

zone size of the source, and a known power level of the source (column 1, lines 21 – column 2, lines 50 and Fig. 1).

Regarding **claim 31**, Dennison discloses that the particular receiver is operable to select among at least two said sources, each having one of known location, a known zone size and a known power level (column 1, lines 21 – column 2, lines 65 and Fig. 1, 2).

Regarding **claim 32**, Dennison discloses that the particular receiver selects an optimum one of the sources to determine the zone of the particular receiver (Fig. 1, 2 and column 1, lines 21 – column 2, lines 50).

Regarding **claim 33**, Dennison discloses that the zone of said particular receiver is determined by a Boolean combination of zones of at least two of said sources (Fig. 1, 2, column 1, lines 21 – column 2, lines 50, and column 6, lines 55 – column 7, lines 22).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Watters (US Patent number 6249245) discloses GPS and Cellular System Interworking.

Kaczmarek (US Patent number 4972456) discloses Rural Radiotelephone System.

Any response to this action should be mailed to:

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(703) 308-9051, (for formal communications intended for entry)

Or:

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Hand-delivered responses should be brought to Crystal Park II, 2121  
Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from  
the examiner should be directed to **John J. Lee** whose telephone number is  
**(703) 306-5936**. He can normally be reached Monday-Thursday and alternate  
Fridays from 8:30am-5:00 pm. If attempts to reach the examiner are  
unsuccessful, the examiner's supervisor, **Vivian Chang**, can be reached on  
**(703) 308-6739**. Any inquiry of a general nature or relating to the status of this  
application should be directed to the Group receptionist whose telephone number  
is **(703) 305-4700**.

J.L  
June 30, 2001

John J Lee



VIVIAN CHANG  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

7/1/01